

REPORT

OF THE

SUPERINTENDENT OF THE YELLOWSTONE NATIONAL PARK

TO THE

SECRETARY OF THE INTERIOR.

1888.

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GOVERNMENT PRINTING OFFICE.
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OFFICE OF THE SUPERINTENDENT
YELLOWSTONE NATIONAL PARK,
Mammoth Hot Springs, Wyo., August 15, 1888.

SIR: I have the honor to submit for your information the following report of the operations of the office of the Superintendent of the Yellowstone National Park for the fiscal year ended June 30, 1888, and to the present date.

When my last report was rendered, August 20, 1887, the hotels of the Park were filled with tourist visitors, and many camping parties, with every description of outfit, were scattered throughout the Park. All possible efforts were made to see that these numerous visitors were made acquainted with the rules and regulations established for their guidance in the Park, and that they were observed and respected. In the enforcement of these regulations several arrests were made, and in one or two instances, where the offenses were flagrant, the offenders were summarily expelled from the Park. In the exercise of the authority which is devolved upon the office of the Superintendent of this National Park great care has been taken to keep strictly within the limits sanctioned by law and to avoid all appearance of a harsh and arbitrary exercise of authority. No person has ever been expelled from the Park who had not admitted the commission of the offense for which the penalty was enforced; and whenever there has been reason to believe that the offenses were committed without intention or through thoughtlessness, or when a sincere regret was perceived, the persons have been permitted to go unmolested, after suitable instruction and admonition. This explanation is made in view of the unwarranted and unjust comments of the Montana newspapers, which, copied by Eastern exchanges, have tended to disseminate the idea that the National Park is subjected to harsh and arbitrary military rule, and that visitors are liable to humiliation and annoyance from a capricious exercise of power.

While these strictures of the press were generally expressed in vague and indefinite terms, they appeared to be founded chiefly upon the two following cases: John Noack, who was arrested at the Upper Geyser Basin, September 18, 1887, for writing upon the geyser formation, in violation of the rules and regulations; and Frank Chatfield, who was arrested near Heart Lake, October, 2, 1887, for killing an elk. In the case of Noack, he was arrested by the soldier on duty at the Upper Geyser

Basin, pursuant to his general instructions to enforce the rules of the Park, in the act of writing his name on the formation. Both he and his companion having offered the soldier money, the latter to clear himself of the suspicion of being improperly influenced, thought best to send the young man to the office of the Superintendent. For this purpose he was permitted to proceed by the regular stage, a soldier following on horseback. When Noack came to my office, he admitted his offense, stated that he had been treated by the soldiers in a courteous and considerate manner, but instead of manifesting any regret for his misconduct professed to consider himself ill-treated in having his pleasure trip interrupted for so slight a cause, and threatened to have the affair published in the newspapers. As it was apparent, in this case, that the rules of the Park had been willfully violated, and as the young man's speech and manner evinced a contempt for authority, it was thought that the provisions of Rule X of the rules and regulations of the Park would properly apply to his case. But as it was not desired to subject him to the unnecessary humiliation of being escorted out of the Park by a military guard, he was given twenty-four hours in which to leave the Park, and was informed that at the expiration of that time he would be liable to arrest and expulsion. He was subjected to no physical restraint at any time, and left the Park on the morning following his interview with the Superintendent by the usual stage to Cinnabar.

The case of Chatfield has been fully reported to the Department by letter, a copy of which is appended to this report (marked A). In this case there were absolutely no extenuating circumstances, and no leniency could have been shown without bringing into contempt the authority exercised by your Department over the National Park.

In my last report it was stated that the volume of travel to the Park at the date of the rendition of the report had fallen somewhat short of that of the previous year. Visitors continued to arrive, however, in considerable numbers, until the last part of September, when travel became so light as to warrant the closing of the hotels of the Park Association and placing them in charge of their winter keepers. Visitors who arrived after the 1st of October were accommodated at this place at the Cottage Hotel, under the management of the lessees, Helen L. and Walter J. Henderson, and through the Park were cared for by the winter keepers of the hotels as well as their limited facilities permitted.

The efforts to discover and bring to justice the perpetrators of the stage robbery within the Park, on the evening of July 4, 1887, which were initiated immediately upon the occurrence of the robbery, and continued unremittingly, were finally successful, and I append to this report two letters, marked respectively B and C, which were addressed to your Department, reporting fully the incidents connected with the arrest and conviction of the guilty parties. Although the punishment decreed in these cases appears to be entirely inadequate to the gravity of the offense, yet in view of the uncertainty which seems to exist relative to the administration of justice by the established courts within this reservation, it is perhaps a subject for congratulation that the perpetrators of the robbery were not permitted to escape all punishment.

On the 15th of October the work on the roads, which had been diligently prosecuted during the summer months by Capt. Clinton B. Sears, Corps of Engineers, U. S. Army, was discontinued and the various working parties discharged.

Although but little snow fell in the Park during the fall and early winter the temperature was at times quite low, the climatic conditions being very dissimilar to those of the previous season, as may be seen

by reference to the meteorological record which is hereto appended and marked D.

This record has been kept pursuant to Army regulations, under the direction of the medical officer at Camp Sheridan, Acting Assistant Surgeon G. L. Cline, U. S. Army, and may be accepted with confidence as being accurate and correct.

The first snows of the season indicated favorable conditions for the hunters' work; and at this time scouting operations were vigorously conducted for the protection of all game within the Park limits. Fortunately the efforts of the troops were seconded and furthered by other causes. The snow-fall being light the game tarried in the inaccessible mountain regions, safe from ordinary hunters, much later than usual, and the excellent law passed at the last session of the legislature of Montana, prohibiting the killing of any of the large game animals "for the purpose of procuring the head or hide only, or for speculative purposes, or for market, or for sale," although not always strictly enforced by the local authorities, served to exercise a discouraging effect upon the class of professional hunters, so that many of them quit the business in disgust.

As a result of these several causes the game of the Park has been free from molestation, and I am confident in the belief that little if any has been killed since the arrest and expulsion of Chatfield in the month of October last.

Upon the closing of the Park hotels and cessation of tourist travel, the daily trains of the Northern Pacific Railroad from Livingston to Cinnabar were discontinued. Trains were, however, run once each week until interrupted in January of the present year by severe storms. Subsequently, upon the opening of certain coal mines near Cinnabar, Mont., a tri-weekly service was established, and continued through a large portion of the spring.

During the early part of the winter it had occurred to me as extremely desirable, if possible, to secure some accurate information concerning the winter haunts of the buffalo which were known to be in the Park. I accordingly consulted with my scout, Mr. Edward Wilson, as to the practicability of a snow-shoe trip into the regions where it was believed they would be found. As Mr. Wilson felt confident that such a journey could be successfully made, I secured the willing services of Sergeant Charles Schroegler, Troop M. First Cavalry, as a companion for Mr. Wilson, and these two men left Camp Sheridan on the 13th of February, 1888, taking with them a pack of provisions and one blanket each. They proceeded the first day to Yancey's Hotel, in Pleasant Valley, and from there struck into the wilderness, scouting the whole length of Specimen Ridge; from there, via Amethyst Mountain, to Pelican Creek; down this stream to the lake; across the lake and down the Yellowstone, via Hayden's Valley, to the Park Association Hotel at the Grand Cañon. After a day's rest at that point, the party returned to this post via Norris, on the 23d of the same month, after an absence of ten days. The hardships of an expedition of this character can only be realized by those who are acquainted with the winter aspect of the mountain solitudes into which these brave and hardy men ventured. The snow at this altitude being very soft and light, the use of sledges, such as are used in Arctic explorations, is impracticable, and the traveler is confined to such quantity of provisions and appliances for comfort as he may find it possible to carry on his person. Snow shoeing through the Park between the different hotels, where comfortable shelter can be procured every night, is comparatively easy, but where

rest is forbidden by the absence of warmth and shelter, the difficulties are such as can only be overcome by hardy and resolute men.

In its principal object, that of gaining accurate information concerning the numbers and location of the buffalo in the Park, this expedition was not entirely successful. The herd of buffalo which had passed a portion of the previous winter along Specimen Ridge was not encountered, and the only buffalo found on the trip were three which were seen in Hayden Valley. Valuable information was, however, obtained relative to the winter ranges, habits, and condition of the large game of the Park, so that the results could not be considered inadequate to the toil and labor expended. Immense bands of elk were encountered in every portion of the Park visited, and both men expressed themselves as being loth to make an estimate as to numbers, fearing that they might be suspected of exaggeration. From the testimony of these men and other reliable information, there can be no doubt that many thousands of elk, deer, and mountain sheep winter in the Park every year, and that their numbers are constantly increasing. But few carnivorous animals were encountered on this trip, and the tracks of but two mountain lions were seen on the whole expedition, so that the fears of those who think the game animals may be exterminated by the carnivora may be considered as without present foundation. Early in April it was discovered that a band of buffalo were located in Hayden Valley and along Alum Creek. A second snow-shoe trip by Mr. Wilson, accompanied by Mr. Edward Hofer, an enterprising correspondent of the Forest and Stream, was fruitful in result, eliciting the fact that a herd of buffalo numbering at least one hundred had passed the winter on the divide between the waters of the Madison and Yellowstone Rivers and in the adjacent valleys. Numbers of these animals have been seen during the spring along the Fire Hole River and its tributaries, and extended investigations have shown that they range in considerable numbers from Alum Creek, in Hayden Valley, across the divide between the waters of the Yellowstone and Madison Rivers and the Continental Divide to Fall River Basin, in the southwestern part of the Park. From the numbers seen and from the quantity of "sign" observed over an extended area, the number of these animals that range in this portion of the Park can be estimated at not less than two hundred. This conclusion is not in accordance with an opinion expressed in my last report, but it has been reached after careful investigation, and is believed to be correct. The large number of young calves and yearlings which have been seen leads to the belief that a natural increase is in progress, and that if proper protection is afforded the species will not, as has been feared, become extinct.

Early in May last information was received here that the Excelsior Geyser in the Midway Geyser Basin, which had been quiescent since 1882, was again active. This geyser was discovered in eruption on the 30th day of April last by one of the winter keepers of the hotel at the Upper Geyser Basin. It continued to give exhibitions of its power with great regularity at intervals of about 60 minutes until the latter part of July, since which time its periods have been more irregular—a possible premonition of another long period of quiescence. If the accounts of the previous wonderful performances of this geyser can be relied on, its character has somewhat changed in the lapse of years. The duration of its eruptive energy this year has not been observed to exceed 2 minutes, and the height of its column of water has seldom reached 200 feet.

The winter snow-fall through the Park being lighter than usual, it

was possible to travel the roads with vehicles as early as the middle of May; and by the 1st of June, numbers of tourists, probably attracted by the reported activity of the Excelsior Geyser, were daily visiting the Park. Early in June the hotels of the Park Association were put in operation, and by the 15th of that month the season was fairly opened, the volume of travel showing a marked increase over that of the previous year, an increase which has been sustained up to the date of this report.

During the month of April, Capt. Clinton B. Sears, Corps of Engineers, U. S. Army, was relieved of his duties in connection with the construction of roads in the Yellowstone National Park, by Maj. Charles J. Allen, of the same Corps. Major Allen visited the Park during the month of June, but the appropriation for the fiscal year ending June 30, 1888, having been exhausted, and the new appropriation not being available, no work, except necessary repairs, was practicable.

FOREST FIRES.

It was stated in my last report that at that date no forest fires of any magnitude had occurred in the Park during the year. It is with gratification that I now add that the forests of the Park have continued to the present time safe from the destructive effects of fire. The immunity from this evil which was enjoyed during the summer of 1887 may be attributed in some degree to the abundant showers which prevailed, but it is believed also that it was in a great measure due to the care and vigilance exercised by the troops charged with the protection of the Park. This care and vigilance will be constantly exercised in the future, but it would be presumptuous to infer that it will always be effective to prevent the occurrence and spread of fires.

LEASES AND BUSINESS PERMITS.

The following are the changes which may be noted under this head since my last report:

On the 6th day of December, 1887, your Department approved the sale and assignment of the lease of ground at this place which had been granted to James A. Clark February 17, 1885, as modified by an agreement dated March 4, 1886, to the firm of White, Friant & Letellier, of Grand Rapids, Mich. This firm, subsequently, on the 14th day of June, 1888, executed an agreement, subject to the approval of the Department of the Interior, transferring their rights in this lease to George W. Wakefield, of Bozeman, Mont. This last agreement has not as yet received the approval of your Department, but, pending action in the case, Mr. Wakefield has been permitted to take possession of the property. Mr. George W. Wakefield has also made application to the Department for the lease of certain pieces of ground in the Park, and while awaiting action upon his application has been permitted to continue his transportation business as the agent of the Yellowstone Park Association.

The short-comings and derelictions of Mr. Charles Gibson in matters pertaining to his lease in the National Park, and the unsatisfactory condition of affairs connected with the operations of the Yellowstone Park Association, has been the subject of frequent communications to your Department, and it is probable that no further information from this office is needed to guide intelligent action. But it seems proper that the subject should not be avoided in this report, and I accordingly

present in connected form, and as briefly as possible, the principal features of the case.

On the 9th day of March, 1883, the Department of the Interior granted to Carroll T. Hobart, Henry F. Douglass, and Rufus Hatch, a lease of land in the Yellowstone National Park, in seven different lots, amounting in all to 10 acres. These lessees agreed to build on the piece of ground leased at Mammoth Hot Springs a hotel to cost not less than \$150,000, and at other points covered by their lease such buildings as might be approved by the Secretary of the Interior.

These lessees carried on their business under the title of the Yellowstone Park Improvement Company, Rufus Hatch president, and Carroll T. Hobart vice-president and general manager. A large hotel was built at this place, which may have cost the amount agreed upon, but it was poorly constructed upon a slight and insecure foundation, and the money it cost was badly invested. This hotel, with its out-buildings, which were all located on ground not leased, comprise all of the improvements made by this company in the Park. In the spring of 1885 the Park Improvement Company became insolvent, a receiver was appointed by a court of Wyoming Territory, and the property was subsequently sold. In November, 1884, Mr. Carroll T. Hobart entered into an agreement with one Charles F. Hobart for the construction of a hotel building at the Upper Geyser Basin upon the grounds leased to the Park Improvement Company. A building was erected under this agreement during the spring and summer of 1885, but instead of being placed upon the leased ground of Messrs. Hobart, Douglass & Hatch, was located on the lease of F. Jay Haynes, and, contrary to law, within one-fourth of a mile of Old Faithful Geyser.

On the 20th day of March, 1886, a lease was granted by the Department to Mr. Charles Gibson embracing 7 acres of land in the National Park, located as follows:

No. 1.—At the Mammoth Hot Springs, commencing at a stake about 1,500 feet east from the summit of the Hot Spring Terraces, and from which the flag-pole on the Government headquarters building bears N. 35° W. distant 1,860 feet, as calculated. Thence running S. $14^{\circ} 30'$ E. for a distance of 511 feet; thence S. $75^{\circ} 30'$ W. for a distance of 170 feet; thence running N. $14^{\circ} 30'$ W. for a distance of 511 feet; thence running N. $75^{\circ} 30'$ E. for a distance of 170 feet to the point of beginning, comprising an area of 2 acres more or less.

No. 2.—At Norris Geyser Basin, commencing at the northeast corner of the Government building, and running N. 67° E. by the magnetic needle for a distance of 425 feet to the point of beginning; thence running N. $37^{\circ} 30'$ W. for a distance of 164 feet to a stake; thence running N. $52^{\circ} 30'$ E. for a distance of 208 feet to a stake; thence running south $37^{\circ} 30'$ E. for a distance of 208 feet to a stake; thence running S. $52^{\circ} 30'$ W. for a distance of 208 feet to a stake; thence running N. $37^{\circ} 30'$ W. for a distance of 44 feet to the point of beginning and comprising an area of 1 acre more or less.

No. 3.—At Grand Cañon of the Yellowstone Falls, commencing at Point Lookout and running due north by the magnetic needle a distance of 1,400 feet; thence due west a distance of 600 feet; thence due south a distance of 160 feet; thence S. $53^{\circ} 45'$ W. a distance of 511 feet; thence N. 81° W. a distance of $315\frac{1}{2}$ feet to point of beginning; thence running N. 7° W. a distance of 170 feet; thence running S. 83° W. a distance of 511 feet; thence running S. 7° E. a distance of 170 feet; thence running N. 83° E. a distance of 511 feet to the point of beginning, comprising an area of 2 acres, more or less.

No. 4.—And 2 acres at the Yellowstone Lake, to be definitely located hereafter as may be agreed upon by the parties hereto. The lessee shall cause the site agreed upon to be accurately surveyed and marked, and submit for the approval of the lessor a plat and description of the same, together with plans of the building to be erected thereon, it being understood that this lease, so far as it relates to the site at the Yellowstone Lake, shall not take effect in law or equity until such site has been definitely located and the plans of buildings approved as above provided.

After this lease was granted it appears that a joint stock company was organized, under the style of the "Yellowstone Park Association,"

to carry on the business of hotel-keeping under the privileges granted by Mr. Gibson's lease. The records of this office afford no information as to who the stockholders of this company are, further than that Charles Gibson is president and L. R. Casey vice-president of the association. It is understood, however, that a majority of the stockholders are gentlemen connected with the Northern Pacific Railroad, and the intimate business relations existing between the two companies lends color to this belief.

Article 2 of Mr. Gibson's lease provides that—

The lessee shall erect on each of the said sites a hotel of such character and dimensions as will adequately and properly accommodate all visitors to the Park, and will from time to time increase the same as the travel increases, upon plans and descriptions which shall have been approved by the Secretary of the Interior, and the buildings thereon, except the one at Mammoth Hot Springs, shall be finished by October 1, 1886. The buildings at Mammoth Hot Springs to be finished by the first day of January, 1887. In addition thereto the lessee shall pay annually to the Secretary of the Interior, at his office in Washington, \$500 per annum as rent for said premises, payable on the first day of January of each year at the Department of the Interior.

The Yellowstone Park Association appear to have begun operations with great vigor in the spring of 1886. The construction of a substantial hotel building at the Norris Geyser Basin was undertaken and carried well on to completion during the summer. A large quantity of material was also accumulated at that point to be used in the construction of a hotel at the Grand Cañon of the Yellowstone. The Park Association also, through an agreement with the Northern Pacific Railroad, came into possession of the hotel at this place which had been built by the Park Improvement Company and which was purchased by the Northern Pacific Railroad when that company had become insolvent. The Association also acquired by purchase or bargain the hotel at the Upper Geyser Basin which had been erected the year previous by C. F. Hobart, and the establishment at the Lower Geyser Basin, known as Marshal's Hotel. This establishment was located upon a lease granted by the Department to George W. Marshal, January 29, 1884.

Upon the urgent solicitation of Mr. Gibson authority was granted by the Department May 25, 1886, for the erection of a temporary hotel building at the Grand Cañon, with the understanding that work upon the permanent hotel at that place should be continued as fast as possible, and that the temporary building should be removed before the 1st day of August following.

Before the hotel building at Norris was constructed permission for a change of site at that place was granted by the Department, subject to approval upon formal application by the lessee with description of the new site selected. There is no record in this office that such application has ever been made. The hotel at Norris, which was the only building in the Park constructed in conformity with the obligations of Mr. Gibson's lease, was destroyed by fire, as previously reported, July 14, 1887.

A temporary structure was erected at that place near the site of the former hotel by my permission, subject to your approval, such a course being deemed necessary to prevent the inconvenience and discomfort to visitors which must have resulted from the absence of shelter at that point. This temporary structure is still in use as a hotel.

Mr. Charles Gibson has failed completely to comply with the obligations of his agreement to build on the sites leased to him hotels of such character and dimensions as will adequately and properly accommodate all visitors to the Park, upon plans approved by the Secretary of the Interior. He has failed to build any hotels at the Mammoth Hot Springs, at the Grand Cañon of the Yellowstone, or at the Yellowstone

Lake, and there is no present indication that he or the parties to whom he has, without authority, transferred his privileges in the Park intend to erect the required buildings. But Mr. Gibson has made use of his lease to gain a foot-hold in the Park for a company which has no recognition by your Department, and which has, by unauthorized methods, obtained possession of cheap and unsuitable buildings at different points in the Park, some of them badly located with reference to the convenience of visitors, in which it is now carrying on the business of hotel keeping without any direct sanction or authority from the Department of the Interior.

To correct this unsatisfactory condition of affairs I have the honor to recommend that the sixty days' notice provided for by article 10 of Charles Gibson's lease be given without delay, and that at the expiration of that period the lease be declared forfeited; that the parties who have gained possession of buildings in the Park without proper authority be required to either vacate the same or to take out proper leases, with the sites properly surveyed, plotted, and described, under a proper guaranty that the unsuitable and unsightly buildings shall be replaced by suitable buildings constructed on approved plans, by a fixed date to be agreed upon.

The permission granted by the Department to James E. Stuart, artist, July 26, 1887, to exhibit and offer for sale, at the Mammoth Hot Springs Hotel, paintings in oil and water colors of the geysers, cañons, and other curiosities of the National Park, has not been taken advantage of during the present season. Louis C. Pettitt, M. D., has also failed to avail himself of the privilege of practicing medicine in the Park.

On the 14th of March last permission was granted to Mrs. M. A. Baronett, postmistress at Mammoth Hot Springs, to keep for sale to tourists and others, during her term of office, or at the pleasure of the Secretary of the Interior, photographic views, stationery, and other small articles, subject to the approval of the Acting Superintendent of the Park. Mrs. Baronett has procured a stock of the class of goods indicated and has to the present time conducted her business in a satisfactory manner.

TRESPASSERS IN THE PARK.

In my last report I called attention to the fact that a toll bridge across the Yellowstone River, known as Baronett's Bridge, was operated in the Park without the authority of the Department, and included in my estimate of appropriations an amount which was deemed sufficient to extinguish the claim to that property. I again invite your attention to the importance of causing the removal of this obstruction to free travel in the National Park, and have again placed in my estimate a sufficient amount to accomplish that object. I also reported in detail the circumstances connected with the trespass of J. C. McCartney, who has located within the northern border of the Park contrary to law. This case has been presented for the consideration and action of your Department upon various occasions and still calls for your attention.

No trespass within the Park has occurred during the past year.

HOTEL ACCOMMODATIONS.

But little change has been made in the character of the hotel accommodations in the Park since my last report. The project of lighting

the hotel of the Park Association at this place by electricity was not carried out, the work being abandoned after the wires and lamps had been placed in the building. This is to be regretted, as danger from fire in a wooden building of such dimensions, lighted by kerosene oil, is always imminent.

The two hotels at this place, that of the Park Association and the Cottage Hotel, conducted by the lessees, Helen L. and Walter J. Henderson, afford ample and excellent accommodations for all visitors. All of the hotels in the Park south of the Mammoth Hot Springs, except that of Mr. Yancey's, at Pleasant Valley, are managed by the Yellowstone Park Association. The buildings are all of a temporary character, of cheap and poor construction, and a shame and discredit to the National Park. The accommodations they afford are entirely inadequate to the demands of travel, and are a cause of frequent and bitter complaint by patrons who, while paying first-class hotel rates, are crowded into cold and leaky buildings, totally devoid of all appliances for comfort.

The building at the Norris Geyser Basin is a long and narrow one-story building built of 1 inch pine boards. It has some twenty small sleeping-rooms, is cold and open, with no appliance for heating beyond a sheet iron stove in the common hall.

At the Grand Cañon there is a similar structure, heated in the same manner, but the roof, which is of some patent material, is leaky. The building is located in thick timber where the sun seldom penetrates, and is always cold and damp. Visitors who pass the night at this place are fortunate if they escape sickness from severe colds.

At the Lower Geyser Basin the old Marshal Hotel, a two-story log building, has been supplemented by two cheap wooden structures, two stories high and each divided into four rooms on each floor by partitions at right angles, the staircases being on the outside of the building. The partitions, both in the main building and the "cottages," are so thin as to afford but little privacy for guests. It is believed that all of the buildings at this place have been erected without the approval of the Department.

The building at the Upper Geyser Basin was pronounced by Mr. Charles Gibson, in a letter to the Department dated August 2, 1887, "a cheat from beginning to end." He also states in the same letter that "the architects and carpenters condemned it as unsafe and liable to fall down," but that "it was made tenantable by props and braces." In my opinion the building is still in an unsafe condition, and its faults of construction are such as to render it improbable that they can be remedied without the demolition of the building.

The increase of travel to the Park this season beyond that of previous years indicates that the number of visitors will become larger year by year, as the advantages of its climate, the curative properties of its thermal springs, and its many beauties and wonders are made known.

The necessity of providing suitable and adequate accommodations in the Park for all conditions of people is daily becoming more pressing, and I urgently request your early consideration of this important subject. I stated in my last report that the hotels of the Park Association were well conducted, that the service was excellent, the food well cooked, and the beds clean. The management during the present season has continued excellent, but the character of the buildings has rendered it impossible to provide properly for the comfort of the numerous visitors.

TRANSPORTATION.

The only change in the transportation facilities of the Park during the past year has been the withdrawal of James A. Clark from the business through the transfer of his lease, as heretofore reported. Ample facilities of excellent character are furnished at Mammoth Hot Springs by the Park Association, through its agent, Mr. George W. Wakefield, and by the Cottage Hotel under the management of Mr. G. L. Henderson. The daily trains of the Northern Pacific Railroad have this season left Livingston at 8.30 a. m. and arrived at Cinnabar at 11 a. m. The passengers have there been met by comfortable carriages from the hotels arriving at this place about 1 p. m., a much better arrangement than that of last year, when the travelers did not reach the hotels until late in the evening. Passengers of the Union Pacific and Utah Northern Railroad reach the Park at the Lower Geyser Basin, after a stage ride of two days, at which point the transportation facilities afforded by the Park Association become available.

Mr. Edward Hofer, under the authority of the Department of the Interior, furnishes at this place outfits and reliable guides for camping parties. I append to this report (marked E) a schedule of rates submitted by Mr. Hofer for the approval of the Department.

During the past year no complaints of extortionate or unjust charges by any of the transportation managers have been made. The drivers and other employes have been attentive to their duties, civil and courteous in their intercourse with visitors, and no accidents have occurred which could be attributed to their unskillfulness or want of attention.

ROADS.

During the past year a new road has been built from the hotel at the Norris Geyser Basin across the Gibbon Meadows, connecting with the graded road at the entrance of Gibbon Cañon, a distance of about 5 miles. The graded road from the vicinity of the Obsidian Cliffs has been extended north about 7 miles, and the position of the road from Norris to the Grand Cañon, which was left incomplete in the fall of 1886, has been finished to within a short distance of the present Falls Road. In order to complete the connection between the present system of hotels by suitable and substantially built roads, there remains to be constructed about 10 miles of road from the head of Gibbon Cañon to the Lower Geyser Basin, about 2 miles from Swan Lake to Indian Creek, and about 2 miles in the vicinity of the Grand Cañon.

It was expected last year that this work would have been carried to completion during the present season, but no appropriation has been available.

The lateness of the season and the uncertainty attending the action of Congress afford but little encouragement to expect much effective work this summer.

The estimates and reports relating to the roads of the Park are made by the engineer officer charged with this work, to the chief of his corps; and in this report I have only designed to note for your information the result of my personal observations. I will venture, however, to suggest that as work on the roads of the Park can only be carried on with economy during about four months of the year, it would seem desirable that a definite scheme of road construction should be decided upon and a sufficient appropriation made to carry the work to completion.

THE BOUNDARIES OF THE PARK.

Among the many needs and wants of the Park no more important or pressing necessity exists than that of an official and accurate survey of its boundaries.

The act setting aside and dedicating the National Park described the area reserved in loose and indefinite language, and made no provision for a survey of its lines.

I am informed that a bill is now pending in Congress which provides for a change and enlargement in the area of the Park, and a survey of its boundaries. but nevertheless, in view of the importance of the subject, I have deemed it proper to include in my estimate of appropriations a sufficient sum for a survey of its present limits, and for which I ask your approval.

THE PROTECTION OF THE PARK.

In my last report I expressed the opinion that the force then at my disposal was inadequate to the proper protection of the Park during the tourist season. I accordingly, at the opening of the present season, made application to the commanding general of the Department of Dakota for an additional force of one commissioned officer and fifteen enlisted men, for duty in the Park until the 1st of October next.

With the approval of the Secretary of War, my application was favorably considered. The detachment, under the command of Second Lieut. T. M. Moody, Twenty-second Infantry, arrived at Camp Sheridan on the 22d of last month, and was immediately ordered on duty in the vicinity of the Lower and Upper Geyser Basins. This additional force gives much needed protection to various objects of interest that were previously unguarded, and the presence of a commissioned officer in this portion of the Park, before whom all complaints and controversies can be taken, will greatly facilitate the enforcement of the established rules and regulations.

During the season of travel detachments from my command cover every portion of the Park accessible to wheeled vehicles, and constant scouting operations are conducted into the more remote regions. The rules of the Park have been generally observed, and good order and a respect for the rights of property have prevailed. All obnoxious and disorderly characters have been rigorously excluded from the Park, and by this means the necessity for violent arrests has been avoided.

As stated elsewhere in this report, the volume of travel during the present season indicates a steady increase from year to year. As the number of visitors becomes larger, and new points are rendered accessible to tourist visitors by the extension of the system of roads, a much larger force than that at present employed will be required to render efficient protection. The present arrangement, however effective it may be as a temporary expedient, can not be considered as a settlement of the difficult question of Park government, or in any way to obviate the necessity of wise and well-considered legislation on this subject.

Frequent reference having been made to the rules and regulations of the Park, I append, in connection with this subject, a copy of the same to this report (marked F).

THE GAME AND ITS PROTECTION.

This subject having been dwelt upon elsewhere in this report, but little remains to be added here. During the past two years, in which

the Park has been intrusted to the care of the troops under my command, but little game has been killed within its limits.

It is also believed that the protection afforded in the previous year, under the administration of my predecessor, was reasonably effective. It would seem, therefore, that at this date the results of this protection should be visible through a natural increase in the numbers of game animals in the Park. The fact of such an increase is, I believe, well established by the testimony of well informed and disinterested parties, who have visited the portions of the Park remote from the ordinary lines of travel, and by the observation of the many scouting parties from my command.

Certainly, in the absence of any barriers, the elk and the deer will not be confined to the Park, and any increase will doubtless, to some extent, overflow into the surrounding country. But as long as a secure refuge and breeding place is afforded by this reservation, and the Territorial laws restricting the killing of game to certain seasons, and by sportsmanlike methods are observed, there will be but little danger of a total extinction of the species. The buffalo or bison have so narrowly escaped extinction, and the number which now find a refuge in this Park is so limited, that they should be protected by every possible method. Hunters, stimulated by the high prices offered by taxidermists for specimens, are now lying in wait beyond the borders of the Park ready to pounce upon any unfortunate animal which may stray beyond its limits.

It is unfortunate that the legislative bodies of the surrounding Territories have not as yet provided laws for the absolute protection, at all seasons, for this now nearly extinct species.

THE GEYSER AND HOT SPRINGS.

There has been apparently considerable decrease of activity in most of the geysers in the Upper Basin during the present year. Old Faithful still maintains its reputation for regularity, but nearly all of the other large geysers have increased the length of their periods of inaction. It has been surmised that the activity of the Excelsior Geyser has had the effect of decreasing the energy of action in this adjacent basin, but long continued scientific investigation can alone determine whether such a speculation has any value.

Constant and unremitting care has been exercised to prevent the defacement of the beautiful geyser formations by the foolish and shallow-minded visitors who delight to publish their ignorance and want of appreciation of the beautiful by writing thereon their names and places of residence. This practice has been quite effectually checked, and it is hoped that the additional precaution recently adopted will serve to entirely suppress it.

THE CARE AND PRESERVATION OF THE PARK.

In my last report I requested in strenuous and urgent terms the appropriation of a small sum to be used by the acting superintendent of the Park in providing sign boards to warn the numerous visitors of dangerous places, to display the names of the different geysers and other objects of interest, to clean up and dispose of the débris of abandoned camps, and generally to keep in order and in a decent condition this large reservation, which has been by law declared "a pleasuring ground for the benefit and enjoyment of the people."

No other public pleasuring ground, of ever so humble a character, is maintained without the expenditure of a dollar for decency's sake. Eminent men from all parts of the civilized world, scholars, law makers, divines, and soldiers come here, attracted by the fame of this land of wonders, and by the invitation implied in its dedication as a National Park, to have their senses offended and their enjoyment of nature's most wonderful and beautiful gifts destroyed by the presence of unsightly filth and rubbish.

I again include in my estimate of appropriations a modest sum for this purpose and again appeal to you for your favorable indorsement and recommendation.

APPROPRIATIONS.

I inclose with this report my estimate of appropriations for the improvement and preservation of the Yellowstone National Park for the fiscal year ending June 30, 1890, and here summarize the items as follows, viz:

For the care and preservation of the Park and the protection of visitors from danger.....	\$3, 000
For the settlement of the Barronett Bridge claim, or so much thereof as may be awarded by a duly constituted commission	2, 000
For accurately surveying and marking the boundary lines of the Park.....	10, 000
Total.....	15, 000

In closing this report, it again gives me pleasure to acknowledge, with thanks, and to commend to your appreciation, the services rendered in the protection of this National Park by Mr. Ed. Wilson, scout and guide, whose energy and interest has been untiring; and by the officers and enlisted men of my command, who have discharged their duties with interest and zeal, and who have accepted cheerfully the discomforts and deprivations of an isolated and dreary station.

I am, sir, very respectfully, your obedient servant,

MOSES HARRIS,
Captain First Cavalry,
Acting Superintendent Yellowstone National Park.

The SECRETARY OF THE INTERIOR,
Washington, D. C.

APPENDIX A.

DEPARTMENT OF THE INTERIOR,
OFFICE OF SUPERINTENDENT YELLOWSTONE NATIONAL PARK,
Mammoth Hot Springs Wyo., October 7, 1887.

SIR: I have the honor to report that on the 2d instant a scouting party from my command arrested one Frank A. Chatfield near the western shore of Heart Lake for killing an elk at that place, which is within the Park. The hunter had killed the animal—a bull elk—and after taking the scalp or skin of the head and neck, which is used for taxidermist purposes, had abandoned the remainder of the carcass.

The shots fired at the animal were heard by the scouting party, and the hunter was found near the carcass with the freshly removed scalp tied to his saddle. Upon examination Chatfield admitted that he killed the elk, but alleged that he thought he was outside the limits of the Park. This defense was without weight, as a few days previously he had been shown a map of the Park in my office, and had had carefully pointed out and explained to him the boundaries of the Park with special reference to the locality of Heart Lake.

I accordingly took possession of his hunting outfit, and yesterday, the 6th instant, caused him to be summarily expelled from the Park.

The articles found in his possession, which I hold subject to your instructions, are as follows, viz:

- One horse (pony).
- One saddle and bridle.
- One Ballard rifle, caliber .50.
- One field-glass (U. S. Signal Service).
- Two steel traps (No. 4 Newhouse).
- One belt of ammunition, with knife and steel.

I am, sir, very respectfully, your obedient servant,

MOSES HARRIS,
Captain First Cavalry, Acting Superintendent.

Hon. H. L. MULBROW,
Acting Secretary of the Interior.

APPENDIX B.

DEPARTMENT OF THE INTERIOR,
OFFICE OF SUPERINTENDENT YELLOWSTONE NATIONAL PARK,
Mammoth Hot Springs, Wyo., November 7, 1887.

SIR: In pursuing the investigation for the detection of the persons who robbed the stage in the National Park on the 4th day of last July, suspicion was finally attracted to William James, the man who was expelled from the Park in April last for violating the rules.

It was stated that a foreign coin had been seen in his possession, the description of which corresponded with that of a pocket-piece taken from one of the passengers when the stage was robbed. Two men were found who stated that James had boasted in their presence that he was one of the parties who had robbed the stage. The robbery having been committed within the territorial limits of Montana I, on the 12th of October, addressed a communication to the United States attorney for Montana, giving him all the information in my possession relative to the affair, and requesting him to take prompt action looking to the arrest and examination of the suspected persons, who, together with the witnesses against them, were at that time in the Madison Valley just beyond the Park limits, but in the Territory of Montana.

I, at the same time, instructed my scouting parties to be vigilant to discover and arrest James if found within the Park. No reply was received to my communication and no action was taken by the civil authorities in the matter.

Mr. G. W. Wakefield, the owner of the stage which was robbed, and who had a transportation contract with Mr. Charles Gibson, endeavored to induce action by the civil authorities of Montana, but without success, the reply being made, "that as the crime was committed in the National Park, the officers of the Territory have no jurisdiction."

On the 21st day of October James was arrested within the Park limits by a sergeant of my troop, and was brought to this place on the 23d ultimo. On the same day two citizens, H. C. Henkley and Frank Moor, came before me and made statements to the effect that James had stated to them that he was one of the men who had robbed the stage, relating to them minutely the circumstances of the affair. He also showed them a piece of gold money of French coinage of the time of Napoleon I, and bearing date of 1811. The description of the piece agreed with the description of a piece of money taken from one of the passengers, Mr. John F. Lacy, of Oskaloosa, La., and described by him to me on the night of the robbery, and the circumstances of the robbery, as stated, agreed in all essential particulars with the facts as narrated by the passengers at the time of the robbery.

I accordingly placed James in confinement, and again wrote to Hon. Robert B. Smith, United States attorney, informing him that I held James subject to his requisition and requesting him to take prompt action in the case. On the 27th ultimo, having received no reply, I made a full statement of the case to the governor of Montana and requested that I be informed what action, if any, would be taken by the authorities of Montana.

In the evening of the same day I received a telegram from the United States attorney requesting me to keep James until an officer could be sent for him.

James was accordingly held in custody until this morning, when he was taken into the portion of the Park which lies within the territorial limits of Montana and there turned over to a deputy United States marshal, who served upon him a warrant duly issued by the commissioner of the district court of Montana for the third judicial district.

While James was in confinement at this place he made a full admission of his participation in the robbery to Mr. G. W. Wakefield, and gave the name of his principal confederate, one Higginbottom, formerly employed as a stage-driver by Mr. Wakefield, who has also been arrested and held for trial.

It would seem that there is now reason to believe that these offenders will be convicted and punished.

I am, sir, very respectfully, your obedient servant,

MOSES HARRIS,
Captain First Cavalry, Acting Superintendent.

Hon. H. L. MULBROW,
Acting Secretary of the Interior.

APPENDIX C.

DEPARTMENT OF THE INTERIOR,
OFFICE SUPERINTENDENT YELLOWSTONE NATIONAL PARK,
Mammoth Hot Springs, Wyo., December 9, 1887.

SIR: Referring to the subject of my letter of November 7 last, I have now the honor to inform you that William James and one Higginbottom were indicted by the United States grand jury, which sat at Bozeman, Mont., for highway robbery in stopping the stage in the National Park on the 4th of July last, were brought to trial in the district court of Montana for the third judicial district, were permitted to plead guilty to a charge of larceny, and were sentenced to one year's imprisonment in the penitentiary and fined \$1,000 each.

I am, sir, very respectfully, your obedient servant,

MOSES HARRIS,
Captain First Cavalry, Acting Superintendent Yellowstone National Park.

Hon. H. L. MULBROW,
Acting Secretary of the Interior.

APPENDIX D.

Meteorological record kept at Mammoth Hot Springs, Wyo., Yellowstone National Park, from August 1, 1887, to July 31, 1888.

AUGUST, 1887.

Dates.	Self-registering thermometers.			Winds.		State of weather.	Remarks.
	Maximum.	Minimum.	Mean.	Direction.	Force.		
1887.	°	°	°				
Aug. 1	79	50	64.50	NE.	Light breeze..	Cloudy	Light rain; thunder-storm.
2	85	46	65.50	NW.	Calm	Fair	Rain and thunder-storm.
3	86	39	62.50	SW.	Gentle breeze..	Cloudy	
4	69	38	53.50	NW.	do	Fair	
5	84	41	62.50	W.	Light breeze..	Clear	
6	82	43	62.50	SW.	do	Fair	
7	77	42	59.50	NW.	Fresh breeze..	Cloudy	Do.
8	76	43	59.50	NW.	High wind	do	Do.
9	84	39	61.50	S.	Strong wind..	Fair	3.10 p. m., wind changed from S. strong wind to NW. gale.
10	87	40	63.50	SW.	Gentle breeze..	Clear	
11	85	38	61.50	SE.	Light breeze..	do	
12	85	52	68.50	NW.	High wind..	Fair	Thunder-storm; heavy rain; 7.05 p. m., strong northwesterly gale.
13	78	38	58	S.	Fresh breeze..	Clear	
14	81	40	60.50	W.	Gentle breeze..	Fair	
15	82	48	65	NW.	Fresh breeze..	do	Thunder-storm passed at a distance.
16	84	43	63.50	SW.	Light breeze..	Clear	
17	86	43	64.50	W.	do	Fair	From 1.10 to 1.25 p. m., hail; thunder-storm.
18	90	44	67	NW.	Fresh breeze..	Clear	
19	91	44	67.50	SW.	Calm	Entire clear..	
20	86	47	66.50	E.	do	Clear	Sprinkling; between 11 and 12, thunder.
21	75	44	59.50	NW.	Strong wind..	Fair	
22	73	44	58.50	E.	Fresh breeze..	Cloudy	
23	64	47	55.50	NW.	High wind..	do	Light rain; 10 p. m., distinct peals of thunder at a distance.
24	58	44	51	W.	do	Fair	Rain.
25	75	38	56.50	NE.	Light breeze..	Clear	Sprinkling in the forenoon; rain and hail between 3 and 4 o'clock p. m.; thunder at a distance.
26	76	39	57.50	NW.	Calm	Clear	
27	83	41	62	SW.	do	do	
28	84	48	66	SW.	Gentle breeze..	Entire clear..	
29	82	49	65.50	W.	do	Cloudy	Rain in the afternoon; rain and thunder-storm during night.
30	71	40	55.50	NW.	Light breeze..	Fair	Heavy rain and hail from 5 to 6.40 p. m.
31	59	37	48	W.	Very l't breeze	do	Rain at night.
Monthly mean..			61.06				

Summary for August, 1887.

Thunder-storms: 1st, passed at a distance; 2d, between 4.50 and 5.40 p. m., accompanied by heavy rain, strong NW. winds; temperature at 4.50, 75°—at the end of the storm, 5.40 p. m., 49°; 7th, temperature fell during storm from 75° at 12.10 p. m. to 54° at 12.55 p. m.; 8th, passed at a distance from SW. in SE. direction; numerous lightning; 12th, heavy rain during storm; no considerable fluctuation of thermometers; 17th, accompanied by hail; temperature fell from 84° to 61° between 1.10 and 1.50 p. m.; 20th, thunder at a distance; temperature fell from 82° to 62° between 11 and 12 a. m.; raised again after 12; 28th, during night.

Temperature during the month:

Highest.....	degrees..	91
Lowest.....	do.....	37
Mean.....	do.....	58.33

Average cloudiness..... 3.8

Metrological record kept at Mammoth Hot Springs, etc.—Continued.

SEPTEMBER, 1887.

Dates.	Self-registering thermometers.			Winds.		State of weather.	Remarks.
	Maximum.	Minimum.	Mean.	Direction.	Force.		
1887.	°	°	°				
Sept. 1	58	30	44	SW.	Gentle breeze.	Cloudy	Hail, rain, and thunder-storm.
2	64	37	50.50	S.	Fresh breeze..	do	
3	79	40	59.50	S.	do	Clear	
4	76	44	60	S.	do	Fair	Rain during night.
5	84	42	63	SW.	Calm	Entire clear..	
6	86	39	62.50	SW.	Fresh breeze..	do	
7	88	42	65	NW.	High wind....	Fair	Rain and thunder-storm during night.
8	72	46	59	SE.	do	do	Light rain between 1 and 2 p. m.
9	68	40	54	W.	Calm	do	
10	76	35	55.50	S.	Light breeze..	Clear	
11	76	42	59	NW.	High wind....	Fair	Rain turned into snow-fall during night.
12	42	32	37	S.	do	Entire cloudy.	Light snow; melted as it fell after 7 a. m.
13	56	30	43	SW.	Gentle breeze.	Cloudy	
14	76	42	59	SW.	do	Clear	
15	76	38	57	S.	Fresh breeze..	Entire clear..	
16	79	43	61	SW.	do	Clear	
17	78	42	60	S.	do	Fair	
18	72	43	57.50	S.	High wind....	do	
19	65	48	56.50	S.	Strong wind..	Clear	
20	76	29	52.50	S.	Light breeze..	do	
21	75	34	54.50	SW.	High wind....	do	
22	79	30	54.50	SW.	Calm	Entire clear..	
23	63	40	51.50	S.	Gentle breeze.	Fair	Rain and hail from 1 to 5 p. m.
24	76	40	58	S.	Fresh breeze..	Clear	Sprinkling from 3.10 to 3.40.
25	77	43	60	W.	Calm	do	Thunder at a distance; double rain- bow.
26	69	34	51.50	SW.	do	Clear	
27	82	33	57.50	S.	Gentle breeze.	do	
28	85	37	61	SW.	Calm	do	
29	85	40	62.50	SE.	Light breeze..	do	
30	73	45	59	S.	High wind....	Entire cloudy.	
Monthly mean.		56.18					

Summary for September, 1887.

Thunder-storms, dates of: 1st, 7th, 24th. Double rainbow on the 25th.

Average cloudiness (scale of ten).....	3.49
Number of days on which cloudiness averaged 8 or more on scale of ten.....	2
Number of days of rain.....	7
Number of days of hail.....	1
Number of days of snow.....	1
Temperature during the month:	
Highest.....	degrees.. 88
Lowest.....	do..... 29
Mean.....	do..... 53.65

Meteorological record kept at Mammoth Hot Springs, etc.—Continued.

OCTOBER, 1887.

Dates.	Self-registering thermometers.			Winds.		State of weather.	Remarks.
	Maximum.	Minimum.	Mean.	Direction.	Force.		
1887.	o	o	o				
Oct. 1	70	44	55	NW.	High wind ..	Fair	Rain.
2	68	24	46	SE.	Light breeze..	Clear	
3	73	36	54.50	S.	Gentle breeze.	...do	
4	78	45	61.50	SW.	High wind....	Cloudy	
5	70	47	58.50	SW.	Calm	Fair	
6	53	28	70.50	SW.	Fresh breeze..	Entire cloudy.	Rain. Snow in the afternoon; melted as it fell.
7	35	25	30	NW.	High wind ..	Fair	
8	49	12	30.50	NW.	Fresh breeze..	Entire clear ..	
9	52	24	38	NW.	Strong wind ..	Cloudy	Snow; sleet from 11 to 11.45 a. m.
10	53	25	39	NW.	Gentle breeze.	Clear	
11	74	27	50.50	SW.	...do	Entire clear ..	
12	73	28	50.50	SE.	Calm	...do	
13	72	26	49	SE.	Very light breeze.	...do	
14	70	33	51.50	SW.	Strong wind ..	Fair	
15	44	31	37.50	NW.	Fresh breeze.	Cloudy	Snow.
16	55	20	37.50	SW.	...do	Fair	
17	53	28	40.50	SE.	Calm	...do	
18	52	28	40	SW.	Strong wind ..	Clear	Snow at night.
19	46	30	38	NW.	Gentle breeze.	Cloudy	Snow.
20	57	18	37.50	SW.	Light breeze..	...do	
21	50	37	43.50	SW.	...do	Fair	
22	42	25	33.50	NW.	Gentle breeze.	...do	Snow from 8.45 to 10.30 a. m.
23	29	5	17	NW.	...do	Entire cloudy.	Snow during night.
24	33	—20	6.50	NW.	...do	Cloudy	
25	41	7	24	NW.	Light breeze..	Clear	
26	40	16	28	SW.	Gentle breeze.	...do	
27	57	32	41.50	SW.	Light breeze..	...do	
28	69	34	51.50	SE.	Calm	Fair	
29	67	31	49	SE.	...do	Clear	
30	73	31	52	S.	...do	...do	
31	71	31	51	S.	Gentle breeze.	...do	
Monthly mean..			41.40				

Summary for October, 1887.

Average cloudiness (scale of ten)	4.28
Number of days on which cloudiness averaged 8 or more on scale of ten	5
Number of days of rain	2
Number of days of sleet	1
Number of days of snow	6
Depth of snow-fall during the month	2 inches.
Temperature during the month:	
Highest	74 degrees.
Lowest	—20 do.
Mean	39.1 do.

Meteorological record kept at Mammoth Hot Springs, etc.—Continued.

NOVEMBER, 1887.

Date.	Self-registering thermometers.			Winds.		State of weather.	Remarks.
	Maximum.	Minimum.	Mean.	Direction.	Force.		
1887.	°	°	°				
Nov. 1	68	28	48	S.	Light breeze..	Clear	
2	67	29	48	SW.	Gentle breeze..	...do	
3	65	25	45	NW.	Very light breeze.	Entire clear ..	
4	64	26	45	SE.	Fresh breeze .	Clear	
5	61	33	47	SW.	High wind ...	Fair	
6	55	31	43	SW.	Gentle breeze	...do	7-9 a. m.; light snow-fall.
7	52	21	36.50	NW.	Very light breeze.	Clear	
8	36	26	31	SE.	...do	Fair	
9	53	28	40.50	SW.	Gentle breeze..	...do	
10	59	33	46	S.	Light breeze..	Clear	
11	64	30	47	SW.	Strong wind ..	...do	
12	60	30	45	NW.	...do	Cloudy	
13	55	29	42	SW.	High wind....	Clear	
14	52	34	43	SE.	...do	...do	
15	44	29	36.50	SW.	Gentle breeze	Cloudy	Snow melted as it fell.
16	43	19	31	SW.	Calm	Clear	
17	44	8	26	SE.	Light breeze..	...do	
18	45	23	34	W.	Fresh breeze..	Fair	
19	56	26	41	SW.	Calm	...do	
20	47	23	35	S.	Light breeze..	Cloudy	
21	45	22	33.50	SE.	Fresh breeze..	Entire cloudy.	Light snow-fall; ground covered.
22	27	0	13.50	SE.	Calm	Fair	
23	41	— 3	19	SW.	...do	...do	
24	44	6	25	NE.	...do	...do	
25	26	— 2	12	W.	...do	...do	Light snow at night.
26	24	—19	2.50	SE.	Very light breeze.	Clear	
27	20	— 4	8	SE.	Fresh breeze..	Entire cloudy.	Snow in the forenoon.
28	38	11	24.50	S.	Calm	Fair	
29	48	18	33	SW.	Light breeze..	...do	
30	34	18	26	SE.	Gentle breeze	...do	Do.
Monthly mean ..			33.58				

Summary for November, 1887.

Average cloudiness (scale of ten)	4.01
Number of days on which cloudiness averaged 8 or more (scale of ten)	2
Number of days of snow	6
Depth of snow-fall during the month "inappreciable."	
Temperature during the month:	
Highest	degrees.. 68
Lowest	do... —19
Mean	do... 31.05

Meteorological record kept at Mammoth Hot Springs, etc.—Continued.

DECEMBER, 1887.

Date.	Self-registering thermometers.			Winds.		State of weather.	Remarks.
	Maximum.	Minimum.	Mean.	Direction.	Force.		
1887.	°	°	°				
Dec. 1	31	14	22.50	SW.	Light breeze..	Entire cloudy.	Snow.
2	30	20	25	S.	Calm	do	Do.
3	41	16	28.50	SW.	do	Fair	
4	23	15	19	SE.	Fresh breeze..	Cloudy	Do.
5	31	22	26.50	S.	High wind ..	do	Do.
6	27	21	24	S.	Strong wind ..	Entire cloudy.	Do.
7	39	26	32.50	S.	Fresh breeze..	Fair	
8	42	25	33.50	SE.	Light breeze..	do	Snow during night.
9	33	24	28.50	S.	Strong wind ..	Cloudy	
10	46	16	31	W.	Light breeze..	Clear	Light snow-fall 2 to 6 p. m.
11	26	20	23	SE.	Gale	Entire cloudy.	Snow.
12	34	18	26	SE.	Very light breeze.	Fair	Do.
13	34	6	20	SE.	Calm	Clear	
14	26	0	13	E.	Light breeze..	do	
15	43	6	24.50	S.	do	do	
16	30	12	21	SW.	Calm	Fair	
17	30	17	23.50	S.	Light breeze..	Cloudy	Do.
18	29	18	23.50	W.	Calm	Fair	Snow in the forenoon.
19	20	2	9	NW.	Light breeze..	do	Snow.
20	17	8	4.50	NW.	Gale	Clear	
21	10	-16	-3	E.	Light breeze..	Cloudy	Do.
22	35	9	22	SE.	Calm	Clear	
23	32	5	18.50	SE.	Light breeze..	Fair	
24	21	10	15.50	S.	Gentle breeze	do	Snow in the forenoon.
25	29	11	20	SW.	Fresh breeze..	Cloudy	Snow.
26	30	8	19	S.	Calm	Fair	Snow, ended 2.30 p. m.
27	26	-1	12.50	SE.	Light breeze..	do	
28	42	13	27.50	SE.	Fresh breeze..	do	Snow.
29	31	22	26.50	S.	Strong wind ..	Entire cloudy	Do.
30	27	5	16	SE.	Calm	Cloudy	Do.
31	24	6	15	E.	do	Fair	
Monthly mean..			21.02				

Summary for December, 1887.

Average cloudiness (scale of ten)	5.80
Number of days on which cloudiness averaged 8 or more (scale of ten)	10
Number of days of snow	19
Depth of snow-fall during the month	24.1 inches.
Depth of snow on the ground at the close of the month	8.6 do.
Temperature during the month:	
Highest	46 degrees.
Lowest	-16 do.
Mean	19.2 do.

Meteorological record kept at Mammoth Hot Springs, etc.—Continued.

JANUARY, 1888.

Dates.	Self-registering thermometers.			Winds.		State of weather.	Remarks.
	Maximum.	Minimum.	Mean.	Direction.	Force.		
1888.	°	°	°				
Jan. 1	17	2	9.50	SE.	Light breeze..	Fair	
2	19	12	15.50	E.	do	Cloudy	Snow,
3	16	8	12	N.	Calm	do	Do.
4	5	—14	—4.50	NE.	do	Entire cloudy.	Do.
5	—2	—24	—13	E.	do	Fair	Do.
6	—5	—28	—16.50	NE.	do	Entire clear..	Snow ended during night.
7	12	—28		SE.	do	Fair	
8	7	—18	—5.50	SE.	do	do	
9	6	—18	—6	SE.	do	do	Snow, afternoon.
10	14	—1	6.50	S.	Fresh breeze..	Cloudy	
11	26	10	18	E.	Light breeze..	do	Snow.
12	22	9	15.50	NW.	do	do	Do.
13	—29	—31	—30	0	Calm	Fair	Snow ended 11 a. m,
14	—25	—41	—33		do	Clear	
15	—5	—35	—20	SW.	Very light breeze.	Cloudy	
16	3	—29	—12.50	SE.	Strong wind..	Clear	
17	10	—15	—2.50	SW.	Fresh breeze..	Fair	
18	18	2	10	SE.	Strong wind..	Cloudy	
19	24	—12	6	SW.	Fresh breeze..	do	Snow at intervals.
20	20	—14	3	E.	Light breeze..	do	Do.
21	31	20	25.50	S.	Strong wind..	do	
22	38	28	33	S.	Fresh breeze..	do	Snow at intervals; melted as it fell.
23	35	29	32	SE.	Gentle breeze..	do	Snow.
24	31	21	26	SE.	High wind....	do	Snow during night.
25	36	22	29	SE.	do	Entire cloudy	Snow ended 12.15 p. m.
26	44	36	40	SW.	Light breeze..	Fair	
27	49	24	36.50	SW.	do	Clear	
28	44	26	35	S.	Gentle breeze..	do	
29	46	32	39	S.	do	Fair	
30	46	33	39.50	SW.	Calm	Clear	
31	47	26	36.50	S.	Very light breeze.	Entire clear..	
Monthly mean ...			10.33				

Summary for January, 1888.

Average cloudiness (scale of ten)	5.57
Number of days on which cloudiness averaged 8 or more (scale of ten)	11
Number of days of snow	15
Depth of snow-fall during the month	39.3 inches..
Temperature during the month:	
Highest	degrees . 49
Lowest	do . 41
Mean	do . 10.24
Barometer during the month:	
Highest	inches.. 24.054
Lowest	do . 23.372

Meteorological record kept at Mammoth Hot Springs, etc.—Continued.

FEBRUARY, 1888.

Dates.	Self-registering thermometers.			Winds.		State of weather.	Remarks.
	Maximum.	Minimum.	Mean.	Direction.	Force.		
1888.	°	°	°				
Feb. 1	39	18	28.50	W.	Calm	Clear	
2	30	24	27	SW.	do	Entire cloudy.	
3	34	18	26	W.	Gentle breeze.	Fair	
4	31	17	24	W.	Calm	do	
5	30	9	19.50	SW.	Light breeze.	do	
6	27	15	21	SW.	Fresh breeze.	do	
7	30	19	24.50	SW.	do	Cloudy	
8	40	30	35	S.	Very light breeze.	Fair	
9	35	29	32	S.	do	Cloudy	
10	31	23	27	SE.	do	do	
11	43	27	35	S.	do	do	
12	44	32	38		Calm	do	Rain.
13	39	25	32		do	Fair	
14	27	18	22.50	SE.	do	Clear	
15	45	10	27.50	SE.	Very light breeze.	do	
16	46	17	31.50	SE.	Light breeze.	do	
17	47	21	34	SE.	do	do	
18	38	19	28.50	SW.	Calm	Cloudy	
19	33	10	21.50	W.	do	Fair	
20	32	19	25.50	SE.	Light breeze.	Clear	
21	34	18	26	S.	do	Fair	Snow; ground covered.
22	37	12	24.50	NE.	do	Entire clear ..	Do.
23	34	16	25	S.	do	Cloudy	Snow at intervals.
24	36	17	26.50	NE.	Gentle breeze.	Fair	
25	31	18	24.50	SW.	do	Cloudy	Snow.
26	40	22	31	SW.	do	Fair	
27	41	27	34	S.	do	Cloudy	Do.
28	37	7	22	NE.	Calm	Entire cloudy.	Do.
29	7	-5	1		do	do	Do.
Monthly mean.			26.72				

Summary for February, 1888.

Average cloudiness (scale of ten)	5.29
Number of days on which cloudiness averaged 8 or more (scale of ten)	7
Number of days of rain	1
Number of days of snow	7
Depth of snow-fall during the month	20.2 inches.
Temperature during the month:	
Highest	47 degrees.
Lowest	-5
Mean	25.78
Barometer during the month:	
Highest	24.120 inches.
Lowest	23.324

Meteorological record kept at Mammoth Hot Springs, etc.—Continued.

MARCH, 1888.

Dates.	Self-registering thermometer.			Winds.		State of weather.	Remarks.
	Maximum.	Minimum.	Mean.	Direction.	Force.		
1888.	°	°	°				
Mar. 1	1	-12	-5.50	N.	Light breeze..	Clear	Snow at intervals.
2	22	-13	4.50	0	Calm	Fair	Do.
3	28	3	15.50	..	do	Cloudy	Snow.
4	16	-4	6	..	do	do	Do.
5	29	-3	13	NW.	..do	Fair	Snow at intervals.
6	34	16	25	S.	Gentle breeze..	do	Do.
7	27	4	15.50	SE.	Calm	Entire cloudy.	Snow.
8	11	-2	4.50	..	do	Cloudy	Do.
9	24	0	12	S.	Light breeze..	Fair	Do.
10	25	6	15.50	W.	Fresh breeze..	Clear	Snow ended in the morning.
11	33	14	23.50	S.	Strong wind ..	Fair	
12	44	28	36	SW.	Gentle breeze..	do	
13	51	25	38	SW.	do	do	
14	49	31	40	SW.	do	do	Snow at night.
15	46	20	33	..	Calm	Clear	
16	48	23	35.50	S.	Light breeze..	Fair	
17	47	30	38.50	SW.	Strong wind ..	Cloudy	Snow during night.
18	40	19	29.50	N.	High wind ..	do	Snow at intervals during forenoon.
19	34	7	20.50	SE.	Light breeze..	Fair	
20	31	15	23	NW.	High wind ..	Cloudy	Snow.
21	35	6	20.50	SW.	Fresh breeze..	Entire clear..	
22	43	22	32.50	S.	do	Fair	
23	48	29	38.50	SW.	Strong wind ..	Cloudy	Light snow from 3.10 p. m.
24	37	10	23.50	N.	Gale	do	Light snow at intervals.
25	25	4	14.50	NW.	High wind ..	Clear	
26	19	2	10.50	N.	do	do	
27	22	0	11	SW.	Fresh breeze..	Cloudy	Light snow.
28	39	19	29	SW.	do	do	
29	41	25	33	NW.	Strong wind ..	do	Snow melted as it fell; 2 to 3 o'clock p. m. NW gale.
30	38	25	31.50	SE.	Light breeze..	do	Snow.
31	45	32	38.50	SE.	Gentle breeze..	do	Snow, rain, sleet, alternately.
Monthly mean..			22.79				

Summary for March, 1888.

Average cloudiness (scale of ten)	5.39
Number of days on which cloudiness averaged 8 or more (scale of ten)	9
Number of days of rain	1
Number of days of snow	17
Depth of snow-fall during the month	inches.. 31.2
Depth of snow on the ground at the end of the month	do.... 4.5
Temperature during the month:	
Highest	degrees.. 51
Lowest	do.... 13
Mean	do.... 21.88
Barometer during the month:	
Highest	inches.. 24.088
Lowest	do.... 23.292

Meteorological record kept at Mammoth Hot Springs, etc.—Continued.

APRIL, 1888.

Dates.	Self-registering thermometers.			Winds.		State of weather.	Remarks.
	Maximum.	Minimum.	Mean.	Direction.	Force.		
1888.	°	°	°				
Apr. 1	40	28	34	NW.	Calm	Fair	Snow and sleet at intervals.
2	44	27	35.50	S.	Light breeze	do	
3	47	21	35	S.	do	do	
4	44	30	37	SW.	Calm	Cloudy	Snow.
5	40	22	31	SW.	Light breeze	Clear	
6	47	23	35	SW.	Fresh breeze	do	
7	54	29	41.50	S.	Calm	do	7.35 to 8.20 p. m., light snow, accompanied by westerly gale.
8	52	29	40.50	S.	Light breeze	do	
9	43	20	31.50	S.	Gentle breeze	do	
10	49	32	40.50	SW.	do	Fair	Entire clear
11	53	33	43	do	Calm	do	
12	60	31	45.50	W.	Gentle breeze	do	
13	63	33	48	S.	do	Clear	Entire clear
14	64	40	52	W.	do	do	
15	64	35	49.50	SW.	Calm	Clear	
16	48	35	41.50	NW.	Strong wind	Fair	Rain, 7.30 to 8.50 a. m.; sleet at intervals.
17	55	24	34.50	S.	Fresh breeze	Clear	
18	65	38	51.50	S.	Light breeze	Fair	
19	66	36	51	do	Calm	Clear	do
20	70	35	52.50	S.	Gentle breeze	do	
21	70	37	53.50	S.	Fresh breeze	Fair	
22	72	37	54.50	SW.	Gentle breeze	do	Sprinkling, 9.50 to 10.30 p. m.
23	75	37	56	W.	Light breeze	Cloudy	
24	61	40	50.50	NW.	Calm	do	
25	42	31	36.50	NW.	Strong wind	Fair	Rain during night.
26	47	30	38.50	SE.	Gentle breeze	do	
27	42	27	34.50	N.	do	Cloudy	
28	47	22	34.50	NW.	Light breeze	Clear	Snow.
29	58	28	43	do	Calm	do	
30	58	33	45.50	NW.	Gentle breeze	Cloudy	
Monthly mean			42.58				

Summary for April, 1888.

Average cloudiness (scale of ten)	3.5
Number of days on which cloudiness averaged 8 or more (scale of ten)	3
Number of days of rain	6
Number of days of hail	1
Number of days of snow	5
Depth of snow-fall during the month	4 inches
Number days sleeting (1st and 16th)	2
Temperature during the month:	
Highest	75 degrees
Lowest	20 do
Mean	41.77 do
Barometer during the month:	
Highest	24.128 inches
Lowest	23.386 do

Meteorological record kept at Mammoth Hot Springs, etc.—Continued.

MAY, 1888.

Dates.	Self-registering thermometers.			Winds.		State of weather.	Remarks.
	Maximum.	Minimum.	Mean.	Direction.	Force.		
1888. May 1	48	37	42.50	S.	Strong wind	Cloudy	Rain and thunder-storm during night. Rain, hail, and snow, alternately during day.
2	46	30	38	NW.	Gentle breeze	Fair	Snow.
3	52	29	40.50	S.	do	do	Threatening.
4	56	37	46.50	S.	Fresh breeze	do	
5	53	37	45	W.	do	Cloudy	Rain at intervals.
6	53	32	42.50	NW.	do	Fair	
7	64	29	46.50	N.	Calm	Clear	
8	64	33	48.50	S.	Strong wind	Fair	Rain.
9	52	35	43.50	NW.	do	Cloudy	
10	44	30	37	NW.	Fresh breeze	Fair	8.10 a. m., light snow. 10.40 a. m. to 1.45 p. m., heavy snow and hail. Snow during night.
11	50	27	38.50	NW.	Calm	Clear	
12	67	37	52	S.	do	do	
13	75	34	54.50	NW.	Gentle breeze	Entire clear	
14	76	37	56.50	NW.	Strong wind	do	
15	56	40	48	NW.	High wind	Cloudy	
16	39	30	34.50	NW.	Gentle breeze	do	Snow melted as it fell.
17	52	31	41.50	S.	do	Fair	
18	60	31	45.50	S.	do	Clear	
19	58	33	45.50	N.	Strong wind	Cloudy	Rain.
20	53	36	44.50	NW.	Fresh breeze	do	Rain and thunder-storm.
21	50	32	41	W.	do	Clear	12.30 to 1.10 p. m., heavy rain and hail.
22	52	34	43	N.	Strong wind	Cloudy	Thunder and lightning between 1 and 2 p. m. Rain at night.
23	51	33	42	N.	Light breeze	do	1 to 3, thunder-storm; rain mixed with snow.
24	59	28	43.50	E.	do	Clear	
25	63	33	48	NW.	Strong wind	Fair	Rain at night.
26	54	40	47	NW.	do	Cloudy	
27	57	33	45	NW.	Fresh breeze	Clear	
28	66	32	49	NW.	do	do	
29	69	35	52	NW.	Light breeze	do	
30	72	37	54.50	W.	do	do	
31	72	42	57	-----	Calm	Fair	Sprinkling, thunder-storm passed at a distance. 1 to 2 p. m.
Monthly mean..			45.60				

Summary for May, 1888.

Thunder-storms, dates of: 1st, 20th, 22d, 23d, and 31st.	
Average cloudiness (scale of ten).....	4.33
Number of days on which cloudiness averaged 8 or more (scale of ten).....	2
Number of days of rain.....	10
Number of days of hail.....	3
Number of days of snow.....	5
Depth of snow-fall during the month, "inappreciable."	
Temperature during the month:	
Highest.....degrees..	76
Lowest.....do.....	27
Mean.....do.....	44.31
Barometer during the month:	
Highest.....inches..	24.004
Lowest.....do.....	23.444

Meteorological record kept at Mammoth Hot Springs, etc.—Continued.

JUNE, 1888.

Dates.	Self-registering thermometers.			Winds.		State of weather.	Remarks.
	Maximum.	Minimum.	Mean.	Direction.	Force.		
1888.	°	°	°				
June 1	69	39	54	NW.	Light breeze..	Fair	Thunder, rain, and hail, 2.45 to 3.30 p. m.
2	70	44	57	SW.	Gentle breeze..	... do	Rain and hail, 6 to 6.45 p. m.
3	67	44	55.50	W.	... do	Cloudy	Rain at night.
4	48	42	45	N.	Calm	Entire cloudy.	Rain at intervals.
5	60	37	48.50	W.	... do	Cloudy	Rain in the afternoon.
6	69	39	54	SE.	Gentle breeze..	... do	4 to 5 p. m., thunder, lightning, heavy shower of rain.
7	63	34	48.50	S.	Calm	Fair	10.30 to 2 p. m., thunder; rain at intervals.
8	56	38	47	NW.	... do	Cloudy	Sprinkling, forenoon.
9	71	36	53.50	SW.	Light breeze..	Clear	
10	74	42	58	S.	... do	Cloudy	Rain.
11	68	40	54	SW.	Calm	Clear	
12	75	39	57	W.	Light breeze..	Fair	Sprinkling, 1.30 to 2 p. m.
13	71	47	59	S.	Gentle breeze..	... do	
14	75	46	60.50	S.	... do	... do	
15	72	48	60	SW.	... do	... do	Rain during night.
16	75	43	59	S.	... do	... do	
17	83	45	64	S.	Calm	Clear	
18	82	49	65.50	E.	... do	Fair	Do.
19	67	47	57	S.	Fresh breeze..	Cloudy	
20	55	38	46.50	W.	Gentle breeze..	... do	
21	53	37	45	W.	Calm	... do	
22	56	39	47	NW.	Gentle breeze..	... do	
23	65	37	51	NW.	Light breeze..	Fair	
24	68	39	53.50	SE.	... do	Cloudy	Rain in the afternoon; thunder and lightning at night.
25	59	43	51	W.	Calm	... do	Rain; thunder 2.45 to 3.15 p. m.
26	71	38	54.50	W.	Light breeze..	... do	Rain during night.
27	71	49	60	SW.	Gale	Fair	Rain in the afternoon; hail and thunder from 3.45 to 4.30 p. m.
28	72	44	58	E.	Gentle breeze..	... do	
29	76	45	60.50	SW.	... do	Clear	Sprinkling at night.
30	76	46	59	SW.	... do	Fair	
Monthly mean ..			54.77				

Summary for June, 1888.

Thunder and thunder-storms, dates of: 1st, 6th, 7th, 24th, 25th, and 27th.	
Average cloudiness (scale of ten)	5.91
Number of days on which cloudiness averaged 8 or more (scale of ten)	6
Number of days of rain	17
Number of days of hail	3
Temperature during the month:	
Highest	degrees.. 83
Lowest	do... 37
Mean	do... 54.64
Barometer during the month:	
Highest	inches.. 23.950
Lowest	do... 23.544

Meteorological record kept at Mammoth Hot Springs, etc.—Continued.

JULY, 1888.

Date.	Self-registering thermometers.			Winds.		State of weather.	Remarks.
	Maximum.	Minimum.	Mean.	Direction.	Force.		
1888.	°	°	°				
July 1	71	46	58.50	S.	Fresh breeze.	Fair	
2	67	41	54	W.	Gentle breeze.	..do.	Rain during night.
3	73	49	61	SE.	Strong wind.	..do.	
4	80	45	62.50	S.	High wind.	Clear	
5	77	47	62	NW.	Light breeze.	Cloudy	Rain at night; thunder and lightning during night.
6	80	47	63.50	E.	Calm	..do.	
7	85	51	68	W.	Light breeze.	Clear	10 to 10.20 a. m. rain.
8	81	54	67.50	S.	..do.	Fair	Thunder-storm and rain during night.
9	91	49	70	W.	Gentle breeze.	Clear	
10	91	51	71	S.	Light breeze.	..do.	
11	95	54	74.50	W.	Gentle breeze.	Fair	Rain at intervals.
12	72	57	64.50	S.	Light breeze.	..do.	Do.
13	71	41	56	SW.	Gentle breeze.	Clear	
14	78	44	61	S.	..do.	..do.	
15	73	45	59	SW.	..do.	..do.	
16	73	40	56.50	NW.	Light breeze.	..do.	
17	74	38	56	NW.	..do.	Entire clear ..	
18	86	38	62		Calm	..do.	
19	90	47	68.50	SW.	Gentle breeze.	Clear	
20	87	53	70	NW.	..do.	..do.	
21	83	54	68.50	NW.	Light breeze.	..do.	
22	87	47	67	NE.	..do.	Fair	
23	81	55	68		Calm	Cloudy	Rain in the afternoon.
24	81	48	64.50	NW.	Gentle breeze.	..do.	
25	82	52	67	SW.	..do.	..do.	3.30 to 7.30 p. m. thunder-storm, rain, and hail.
26	85	48	56.50	SW.	Gentle breeze.	Fair	Rain; thunder-storms in the afternoon.
27	84	46	65	S.	Light breeze.	..do.	Rain and hail; thunder-storm passed at a distance 8 p. m.
28	85	49	67	NE.	Calm	..do.	Thunder and lightning during night.
29	87	51	69	SW.	Light breeze.	Clear	
30	80	47	63.50	N.	..do.	Fair	
31	66	53	59.50	NW.	..do.	Entire cloudy.	Rain from 11.20 a. m. to 2 p. m.
Monthly mean...			64.24				

Summary for the month of July, 1888.

Thunder-storms: dates of 5, 8, 25, 26, 27, 28. On the 26th, 3.30 p. m., distinct peals of thunder at a distance; temperature 85°; 4.50 p. m. thunder-storm from westerly direction approaching; wind changed from SW. light breeze to W. gale; heavy rain; strong electrical detonations and numerous lightning; thermometer fell from 76° to 56° in twenty minutes; double rainbow observed SE; 5.50 p. m., wind changed from W. gale to SE. fresh breeze with approach of thunder-storm; heavy rain ended at 6.30 p. m.

Average cloudiness (scale of ten).....	3.98
Number of days on which cloudiness averaged 8 or more (scale of ten).....	2
Number of days of rain	11
Number of days of hail	1

Temperature during the month:

Highest.....	degrees.. 95
Lowest	do.... 38
Mean	do.... 64.07

Barometer during the month:

Highest	inches.. 24.172
Lowest	do.... 23.802

APPENDIX E.

Schedule of rates for camping outfits submitted by Mr. Elwood Hofer:

For guide and horse per day	\$5.00
For packer and horse per day	4.00
For cook and horse per day	4.50
For saddle horses each per day	2.00
For pack animals each per day	1.00

Tents and camp equipage are furnished without additional charge.

APPENDIX F.

Rules and regulations of the Yellowstone National Park.

DEPARTMENT OF THE INTERIOR,
Washington July 1, 1888.

1. It is forbidden to remove or injure the sediments or incrustations around the geysers, hot springs, or steam vents; or to deface the same by written inscription or otherwise; or to throw any substance into the springs or geyser vents; or to injure or disturb in any manner any of the mineral deposits, natural curiosities, or wonders within the Park.

2. It is forbidden to ride or drive upon any of the geyser or hot-spring formations or to turn loose stock to graze in their vicinity.

3. It is forbidden to cut or injure any growing timber. Camping parties will be allowed to use dead or fallen timber for fuel.

4. Fires shall be lighted only when necessary and completely extinguished when not longer required. The utmost care should be exercised at all times to avoid setting fire to the timber and grass.

5. Hunting, capturing, injuring, or killing any bird or animal within the Park is prohibited. The outfits of persons found hunting or in possession of game killed in the Park will be subject to seizure and confiscation.

6. Fishing with nets, seines, traps, or by the use of drugs or explosives, or in any other way than with hook and line is prohibited. Fishing for purposes of merchandise or profit is forbidden by law.

7. No person will be permitted to reside permanently or to engage in any business in the Park without permission, in writing, from the Department of the Interior. The Superintendent may grant authority to competent persons to act as guides and revoke the same in his discretion.

8. No drinking saloon or bar-room will be permitted within the limits of the Park.

9. Private notices or advertisements shall not be posted or displayed within the Park, except such as may be necessary for the convenience and guidance of the public, upon buildings on leased ground.

10. Persons who render themselves obnoxious by disorderly conduct or bad behavior, or who violate any of the foregoing rules, will be summarily removed from the Park under authority of the statute setting apart the Park "as a pleasuring ground for the people," and providing that it "shall be under the exclusive control of the Secretary of the Interior, whose duty it shall be to make and publish such rules and regulations as he shall deem necessary or proper," and who "generally shall be authorized to take all such measures as shall be necessary or proper to fully carry out the object and purposes of this act."

WM. F. VILAS,
Secretary of the Interior.

